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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/823,652	04/14/2004	Norio Imaoka	119120	4959

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EXAMINER

CLARK, SHEILA V

ART UNIT PAPER NUMBER

2823

DATE MAILED: 07/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/823,652

Applicant(s)

IMAOKA, NORIO

Examiner

S. V. Clark

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2823

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 05 May 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) 16-22 and 24-30 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6, 8, 9, 11 and 23 is/are rejected.
- 7) ☒ Claim(s) 7, 10, 12-15 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 2-15-05.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date: \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6, 8, 11, 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsunashima.

Tsunashima shows a optical device having at least a first top semiconductor substrate 2 with an optical part 13 or 11 (and col. 12, lines 20-25 teaches that an optical mechanism could be installed onto a chip) and first top pad 7 and a second semiconductor substrate having an integrated circuit and a second pad 7 under the first semiconductor.

A through hole s shown continuously extending through the first and second substrates and a conductive part 4 formed inside of said hole.

Said optical part of shown formed on a top side of upper substrate 2.

Insulating layer 6 can be seen formed in the inside of said through hole.

Said conductive part is shown electrically connected on a side to external bump connections 9 and another chip.

An intermediate insulating layer 31 is shown interposed between said substrates.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tsunashima in view of Kaurachima et al.

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The features of Tsunashima from which 9 depends have been discussed above except for a resin layer formed on the side surface of the second chip.

Kaurachima et al shows a resin layer 22 on the side surface of each stacked chip.

It would have been therefore obvious to one having ordinary skill in this art to form a resin layer on the side surface of the second substrate of Kaurachima for the purpose of providing a protective layer, improved support and improved thermal resistance.


Claims 1-6, 8, 9, 11, 23 are rejected.

Claims 7, 10, 12-15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 16-22 and 24-30 stand withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 5-5-2005.

PTO-1449 cites prior art references of stacked chip with through holes therein.

Any inquiry concerning this communication should be directed to S. V. Clark at telephone number (571) 272-1725.

  
S. V. Clark  
Primary Examiner  
Art Unit 2823

July 25, 2005